Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Original) A method for a first user to communicate in an Internet Protocol (IP) centric distributed network with a plurality of service layers providing a plurality of functions associated with each of the service layers, the method comprising:

accessing the network to establish a point of presence at an access management layer and a core portion of the network and to designate a default amount of bandwidth and a plurality of default setup parameters;

invocating service through an application server on the network to establish an amount of network resources requested by the first user;

establishing a transport session to create and manage a connection from the first user to a destination address; and

accounting for a level of quality of service for a service session within the IP centric distributed network.

2.   (Original) The method of claim 1 wherein the plurality of service layers includes a network service function layer.

3.   (Original) The method of claim 1 wherein the plurality of service layers includes a local service function layer.

4.   (Original) The method of claim 1 wherein the plurality of service layers includes an access service function layer.

5.   (Original) The method of claim 3 further including distribution of client server functions within the local service layer.

6.   (Original) The method of claim 1 further including distribution of client server functions within an access network.

7.   (Original) The method of claim 1 wherein the accessing the network is done through an any access network (xAN).

8.   (Currently amended) The method of claim 1 wherein the accounting for a level of quality of service ~~accomodates~~ accommodates desired accounting parameters based on the level of quality of service requested.

9.   (Currently amended) The method of claim 1 herein the accounting for a level of quality of service ~~accomodates~~ accommodates modifying accounting parameters based on a dynamic change in the level of quality of service.

10.   (Currently amended) The method of claim 1 wherein the accounting for a level of quality of service supports ~~multiple~~ multiple simultaneous applications or services with respective levels of quality of service.

11.   (Currently amended) The method of claim 1 wherein the accounting for a level of quality of service dynamically ~~segements~~ segments and aligns billing information to ~~accomodate~~ accommodate dynamic changes in the level of quality of service.

12.   (Original) The method of claim 1 further including requesting a quality of service change initiated from the first user.

13.   (Original) The method of claim 12 further including communicating between an access point and a policy manager.

14.   (Original) The method of claim 13 wherein the policy manager can be at the access point or at the core network.

15.   (Currently amended) The method of claim 12 further including creating a user accounting entry at the xAN, corresponding to the requested ~~quaity~~ quality of service and indicating allocated resources for the requested quality of service.

16.   (Original) The method of claim 12 further including sending an accounting model indicator to the xAN.

17.   (Original) The method of claim 12 further including sending an message to start a record from xAN to a accounting server at the local service layer.

18.   (Original) The method of claim 12 further including updating a service detail record for the requested quality of service.

19.   (Original) The method of claim 1 requesting a quality of service change initiated from a second user.

20.   (Original) The method of claim 19 wherein the requested quality of service is initiated directly from the second user.

21.   (Currently amended) The method of claim 19 wherein the requested quality of service is ~~initited~~ initiated indirectly by the second user and directly from a network that the second user is attached to.

22.   (Original) The method of claim 19 further including requesting a quality of service change initiated from the second user.

23.   (Original) The method of claim 22 further including communicating between an access point and a policy manager.

24.   (Original) The method of claim 23 wherein the policy manager can be at the access point or at the core network.

25.   (Currently amended) The method of claim 19 further including creating a user accounting entry at the xAN, corresponding to the requested ~~quaity~~ quality of service and indicating allocated resources for the requested quality of service.

26.   (Original) The method of claim 19 further including sending an accounting model indicator to the xAN.

27.   (Original) The method of claim 19 further including sending an message to start a record from xAN to a accounting server at the local service layer.

28.   (Original) The method of claim 19 further including updating a service detail record for the requested quality of service.

29.   (Original) The method of claim 1 further including requesting a quality of service change initiated from an allied application server.

30.   (Original) The method of claim 29 further including creating a service accounting entry at the allied application server indicating allocated services corresponding to the requested quality of service.

31.   (Currently amended) The method of claim 29 further including ~~seind~~ sending a message to start a ~~recored~~ record from the allied application server to an accounting server at the local service layer.

32. (Currently amended) The method of claim 29 further including ~~udpating~~ updating a service detail record ~~corresoponding~~ corresponding to a user ~~accouting~~ accounting entry for the ~~the~~ requested quality of service, and wherein the user accounting entry is at the local service layer.

33. (Original) The method of claim 29 further including sending an accounting model indicator to the xAN.

34. (Currently amended) The method of claim 29 further including creating a user accounting entry at the xAN to track ~~useage~~ usage specific to the requested quality of service.

35. (Original) The method of claim 1 further including dynamically changing the level of quality of service during an established service session.

36. (Original) The method of claim 35 further including sending a stop record with quality of service data corresponding to usage before the change in the level of quality of service.

37. (Original) The method of claim 36 further including de-allocating, from the xAN, an user accounting entry associated the usage before the change in the level of quality of service.

38. (Original) The method of claim 36 further including updating a service detail record at the local service layer.

39. (Original) The method of claim 36 further including sending a service detail record from an accounting server at the local service layer to an accounting server at the first user's network service layer.

40.   (Original) The method of claim 39 further including storing the service detail record at the accounting server of the first user at the network service layer.

41.   (Currently amended) The method of claim 35 further including creating a user accounting entry at ~~hte~~ the xAN to track usage specific to the change in the level of quality of service.

42.   (Original) The method of claim 35 further including sending from the xAN, a start record message corresponding to the change in the level of quality of service to an accounting server at the local service layer.

43.   (Currently amended) The method of claim 35 ~~futher~~ further including creating a service detail record at an accounting server at the local service layer with an identical session ID as a service detail record ~~corresonding~~ corresponding to the level of quality of service before the change.

44.   (Original) The method of claim 1 further including dynamically changing the level of quality of service during an established service session at an application server on an Internet.

45.   (Original) The method of claim 44 further including creating a user accounting entry at the xAN to track usage specific to the change in the level of quality of service.

46.   (Original) The method of claim 44 further including sending from the xAN, a start record message corresponding to the change in the level of quality of service to an accounting server at the local service layer.

47.   (Original) The method of claim 44 further including updating a service detail record at the local service layer.

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48.   (Original) A system for a first user to communicate in an Internet Protocol (IP) centric distributed network with a plurality of service layers providing a plurality of functions associated with each of the service layers, the system comprising:

a means for accessing the network to establish a point of presence at an access management layer and a core portion of the network and to designate a default amount of bandwidth and a plurality of default setup parameters;

an application server on the network that invocates service to establish an amount of network resources requested by the first user;

a means for establishing a transport session to create and manage a connection from the first user to a destination address; and

a means for accounting for a level of quality of service for a service session within the IP centric distributed network.

49.   (Original) The system of claim 48 wherein the plurality of service layers includes a network service function layer.

50.   (Original) The system of claim 48 wherein the plurality of service layers includes a local service function layer.

51.   (Original) The system of claim 48 wherein the plurality of service layers includes an access service function layer.

52.   (Original) The system of claim 50 further including client server functions distributed within the local service layer.

53.   (Original) The system of claim 48 further including client server functions distributed within an access network.

54.   (Original) The system of claim 48 wherein the accessing the network is done through an any access network (xAN).

55.   (Currently amended) The system of claim 1 wherein the means for accounting for a level of quality of service ~~accomodates~~ accommodates desired accounting parameters based on the level of quality of service requested.

56.   (Currently amended) The system of claim 48 wherein the means for accounting for a level of quality of service ~~accomodates~~ accommodates modifying accounting parameters based on a dynamic change in the level of quality of service.

57.   (Currently amended) The system of claim 48 wherein the means for accounting for a level of quality of service supports ~~mulitple~~ multiple simultaneous applications or services with respective levels of quality of service.

58.   (Currently amended) The system of claim 48 wherein the means for accounting for a level of quality of service dynamically ~~segements~~ segments and aligns billing information to ~~accomodate~~ accommodate dynamic changes in the level of quality of service.

59.   (Original) The system of claim 48 further including means for requesting a quality of service change initiated from the first user.

60.   (Original) The system of claim 59 further including means for communicating between an access point and a policy manager.

61.   (Original) The system of claim 60 wherein the policy manager can be at the access point or at the core network.

62.   (Currently amended) The system of claim 59 further including means for creating a user accounting entry at the xAN, corresponding to the requested ~~quaity~~ quality of service and indicating allocated resources for the requested quality of service.

63.   (Original) The system of claim 59 further including means for sending an accounting model indicator to the xAN.

64.   (Original) The system of claim 59 further including means for sending an message to start a record from xAN to a accounting server at the local service layer.

65.   (Original) The system of claim 59 further including means for updating a service detail record for the requested quality of service.

66.   (Original) The system of claim 48 means for requesting a quality of service change initiated from a second user.

67.   (Original) The system of claim 66 wherein the requested quality of service is initiated directly from the second user.

68.   (Currently amended) The system of claim 67 wherein the requested quality of service is ~~initited~~ initiated indirectly by the second user and directly from a network that the second user is attached to.

69.   (Original) The system of claim 59 further including means for requesting a quality of service change initiated from the second user.

70.   (Original) The system of claim 69 further including means for communicating between an access point and a policy manager.

71.   (Original) The system of claim 70 wherein the policy manager can be at the access point or at the core network.

72.   (Currently amended) The system of claim 59 further including means for creating a user accounting entry at the xAN, corresponding to the requested ~~quaity~~ quality of service and indicating allocated resources for the requested quality of service.

73.   (Original) The system of claim 69 further including means for sending an accounting model indicator to the xAN.

74.   (Original) The system of claim 69 further including means for sending an message to start a record from xAN to a accounting server at the local service layer.

75.   (Original) The system of claim 69 further including means for updating a service detail record for the requested quality of service.

76.   (Original) The system of claim 48 further including means for requesting a quality of service change initiated from an allied application server.

77.   (Original) The system of claim 76 further including means for creating a service accounting entry at the allied application server indicating allocated services corresponding to the requested quality of service.

78.   (Original) The system of claim 76 further including means for sending a message to start a recored from the allied application server to an accounting server at the local service layer.

79.   (Currently amended) The system of claim 76 further including means for ~~udpating~~ updating a service detail record ~~corresoponding~~ corresponding to a user ~~accouting~~ accounting entry for the ~~the~~ requested quality of service, and wherein the user accounting entry is at the local service layer.

80. (Original) The system of claim 76 further including means for sending an accounting model indicator to the xAN.

81. (Currently amended) The system of claim 76 further including means for creating a user accounting entry at the xAN to track ~~useage~~ <u>usage</u> specific to the requested quality of service.

82. (Original) The system of claim 48 further including means for dynamically changing the level of quality of service during an established service session.

83. (Original) The system of claim 82 further including means for sending a stop record with quality of service data corresponding to usage before the change in the level of quality of service.

84. (Original) The system of claim 82 further including means for de-allocating, from the xAN, an user accounting entry associated the usage before the change in the level of quality of service.

85. (Original) The system of claim 82 further including means for updating a service detail record at the local service layer.

86. (Original) The system of claim 82 further including means for sending a service detail record from an accounting server at the local service layer to an accounting server at the first user's network service layer.

87. (Original) The system of claim 86 further including means for storing the service detail record at the accounting server of the first user at the network service layer.

88.   (Currently amended) The system of claim 82 further including means for creating a user accounting entry at ~~hte~~ the xAN to track usage specific to the change in the level of quality of service.

89.   (Original) The system of claim 82 further including means for sending from the xAN, a start record message corresponding to the change in the level of quality of service to an accounting server at the local service layer.

90.   (Currently amended) The system of claim 82 ~~futher~~ further including means for creating a service detail record at an accounting server at the local service layer with an identical session ID as a service detail record ~~corresending~~ corresponding to the level of quality of service before the change.

91.   (Original) The system of claim 48 further including means for dynamically changing the level of quality of service during an established service session at an application server on an Internet.

92.   (Original) The system of claim 91 further including means for creating a user accounting entry at the xAN to track usage specific to the change in the level of quality of service.

93.   (Original) The system of claim 91 further including means for sending from the xAN, a start record message corresponding to the change in the level of quality of service to an accounting server at the local service layer.

94.   (Original) The system of claim 91 further including means for updating a service detail record at the local service layer.

95.   (Original) A method for a first user to communicate in an Internet Protocol (IP) centric distributed network with a plurality of service layers including a network service

layer, a local service layer and an access network layer, providing a plurality of functions associated with each of the service layers, the method comprising:

accessing the network through an any access network (xAN) to establish a point of presence at an access management layer and a core portion of the network and to designate a default amount of bandwidth and a plurality of default setup parameters;

invocating service through an application server on the network to establish an amount of network resources requested by the first user;

establishing a transport session to create and manage a connection from the first user to a destination address; and

accounting for a level of quality of service for a service session within the IP centric distributed network.

96. (Currently amended) The method of claim 95 wherein the accounting for a level of quality of service ~~accomodates~~ accommodates desired accounting parameters based on the level of quality of service requested.

97. (Currently amended) The method of claim 95 wherein the accounting for a level of quality of service ~~accomodates~~ accommodates modifying accounting parameters based on a dynamic change in the level of quality of service.

98. (Currently amended) The method of claim 95 wherein the accounting for a level of quality of service supports ~~mulitple~~ multiple simultaneous applications or services with respective levels of quality of service.

99. (Currently amended) The method of claim 95 wherein the accounting for a level of quality of service dynamically ~~segements~~ segments and aligns billing information to ~~accomodate~~ accommodate dynamic changes in the level of quality of service.

100. (Original) The method of claim 95 further including requesting a quality of service change initiated from the first user.

101. (Original) The method of claim 100 further including communicating between an access point and a policy manager.

102. (Original) The method of claim 102 wherein the policy manager can be at the access point or at the core network.

103. (Currently amended) The method of claim 100 further including creating a user accounting entry at the xAN, corresponding to the requested ~~quaity~~ quality of service and indicating allocated resources for the requested quality of service.

104. (Original) The method of claim 100 further including sending an accounting model indicator to the xAN.

105. (Original) The method of claim 100 further including sending an message to start a record from xAN to a accounting server at the local service layer.

106. (Original) The method of claim 100 further including updating a service detail record for the requested quality of service.

107. (Original) The method of claim 95 requesting a quality of service change initiated from a second user.

108. (Original) The method of claim 107 wherein the requested quality of service is initiated directly from the second user.

109. (Currently amended) The method of claim 107 wherein the requested quality of service is ~~initited~~ initiated indirectly by the second user and directly from a network that the second user is attached to.

110. (Original) The method of claim 107 further including requesting a quality of service change initiated from the second user.

111. (Original) The method of claim 110 further including communicating between an access point and a policy manager.

112. (Original) The method of claim 111 wherein the policy manager can be at the access point or at the core network.

113. (Currently amended) The method of claim 95 further including creating a user accounting entry at the xAN, corresponding to the requested ~~quaity~~ quality of service and indicating allocated resources for the requested quality of service.

114. (Original) The method of claim 113 further including sending an accounting model indicator to the xAN.

115. (Original) The method of claim 110 further including sending an message to start a record from xAN to a accounting server at the local service layer.

116. (Original) The method of claim 110 further including updating a service detail record for the requested quality of service.

117. (Original) The method of claim 95 further including requesting a quality of service change initiated from an allied application server.

118. (Original) The method of claim 117 further including creating a service accounting entry at the allied application server indicating allocated services corresponding to the requested quality of service.

119.   (Original) The method of claim 117 further including seind a message to start a recored from the allied application server to an accounting server at the local service layer.

120.   (Currently amended) The method of claim 117 further including ~~udpating~~ updating a service detail record ~~corresoponding~~ corresponding to a user ~~accouting~~ accounting entry for the ~~the~~ requested quality of service, and wherein the user accounting entry is at the local service layer.

121.   (Original) The method of claim 117 further including sending an accounting model indicator to the xAN.

122.   (Currently amended) The method of claim 117 further including creating a user accounting entry at the xAN to track ~~useage~~ usage specific to the requested quality of service.

123.   (Original) The method of claim 95 further including dynamically changing the level of quality of service during an established service session.

124.   (Original) The method of claim 123 further including sending a stop record with quality of service data corresponding to usage before the change in the level of quality of service.

125.   (Original) The method of claim 124 further including de-allocating, from the xAN, an user accounting entry associated the usage before the change in the level of quality of service.

126.   (Original) The method of claim 123 further including updating a service detail record at the local service layer.

127. (Original) The method of claim 123 further including sending a service detail record from an accounting server at the local service layer to an accounting server at the first user's network service layer.

128. (Original) The method of claim 127 further including storing the service detail record at the accounting server of the first user at the network service layer.

129. (Original) The method of claim 123 further including creating a user accounting entry at hte xAN to track usage specific to the change in the level of quality of service.

130   (Original) The method of claim 123 further including sending from the xAN, a start record message corresponding to the change in the level of quality of service to an accounting server at the local service layer.

131. (Currently amended) The method of claim 123 ~~futher~~ further including creating a service detail record at an accounting server at the local service layer with an identical session ID as a service detail record ~~corresending~~ corresponding to the level of quality of service before the change.

132. (Original) The method of claim 95 further including dynamically changing the level of quality of service during an established service session at an application server on an Internet.

133. (Original) The method of claim 132 further including creating a user accounting entry at the xAN to track usage specific to the change in the level of quality of service.

134. (Original) The method of claim 132 further including sending from the xAN, a start record message corresponding to the change in the level of quality of service to an accounting server at the local service layer.

135.   (Original) The method of claim 132 further including updating a service detail record at the local service layer.